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APPROVAL SIGNATURES		DATE
Greg Blaney (original signature on file)	QMS Management Representative	11/01/01

REVISION HISTORY			
Rev No.	Description of Change	Author	Effective Date
Basic	Initial Release	Calhoun	11/05/01

REFERENCE DOCUMENTS	
Document Number	Document Title
NPG 1441.1	NASA Records Retention Schedules
IVV 16	Control of Quality Records
NPD 2820.1	NASA Software Policies
NPG 7120.5A	NASA Program and Project Management Processes and Requirements
NPD 8730.4	Software Independent Verification and Validation (IV&V) Policy
NASA-STD-2201-93	NASA Software Assurance Standard
NASA-STD-8719.13A	NASA Software Safety Standard

CHECK THE MASTER LIST at <http://www.ivv.nasa.gov/iso9000>
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1.0 Purpose

The purpose of this procedure is to establish a consistent method for accepting taskings to prepare for and participate in an Independent Program Review (IPR) sponsored by a NASA organization such as NASA Headquarters or the Langley Independent Program Assessment Office. NASA Programs/Projects undergo various types of IPRs per the request of the sponsoring NASA organization.

This document will ensure an understanding of the different types of IPRs the IV&V Facility may be requested to participate in, along with the associated responsibilities.

1.1 Policy

The policy of the IV&V Facility is to perform/support the software related review portions of the IPRs for NASA Headquarters (Level 1) and Goddard Space Flight Center. Other appropriate IPRs will be supported on the basis of the availability of workforce time and funding.

2.0 Scope

This procedure applies to all IV&V Facility Civil Service and/or subcontractor personnel who participate in Independent Program Reviews.

3.0 Definitions and Acronyms

3.1 Independent Program Review

A generic term used to reference any of the specific reviews described in this procedure.

3.2 Process Verification Review (PVR)

A review to assess the effectiveness and efficiency of the Safety and Mission Assurance (S&MA) processes and management practices being implemented at each NASA Center, and to verify the stability and capability of the safety, reliability, and quality assurance functions at each NASA Center.

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3.3 Independent Annual Review (IAR)

A review conducted during a NASA Program/Project's implementation phase to assure compliance to the Program Commitment Agreement defined thresholds. An IAR is required during those years when a Non-Advocate Review is not conducted.

3.4 Non-Advocate Review (NAR)

A review conducted during a NASA Program/Project's formulation phase as an input to the approval process that provides an independent assessment of the program/project's readiness to proceed to the next program phase.

3.5 Program Management Review (PMR)

A review to assess a NASA Program/Project's ability to meet its program management requirements.

3.6 IPR Team Lead

The person from the NASA organization assigned to lead and facilitate the IPR.

4.0 Flow Chart

This section is not applicable to this SLP.


5.0 Responsibilities

5.1 IV&V Facility Management

When approached with a request for IPR support, the IV&V Facility management (or designated representative) will work with the IPR Team Leader to determine the appropriateness of IV&V participation, facility workload and schedule, funding, and specific IV&V representation.

5.1 IV&V Representative

The person from the IV&V Facility assigned to participate in the IPR by IV&V Facility management. The IV&V representative will be responsible for IPR preparation, performance of the software related activities of the IPR, and report writing.

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6.0 Procedure

The following procedures will apply to performing IPRs such as, but not limited to, Process Verification Reviews, Independent Annual Reviews, Non-Advocate Reviews, and Program Management Reviews.

6.1 Receive IPR Assignment

IV&V Facility management (or designated representative) will work with the IPR Team Lead and decide which IV&V Facility personnel will participate as an IPR team member in each IPR. The IV&V representative shall contact the IPR Team Lead to obtain the following:

- List of IPR team members with contact information
- Dates and location of the IPR
- Roles and responsibilities of the IPR team members
- Preparation products for the IPR (e.g., plans, procedures, or agreements)
- Suggested review area topics or questions for each IPR team member
- Organizational charts for the Center under review

Typically as part of the IPR team, the role of the IV&V representative will focus on reviewing and assessing software related policies, practices, and procedures for the NASA Program/Project under review.

The IV&V representative is responsible for verifying their participation in the IPR with the IPR Team Lead. If the IV&V representative can not serve on the IPR team, they are to notify IV&V Facility management in order for another representative from the IV&V Facility to be assigned to the IPR.


6.2 Prepare for IPR

6.2.1 Review Documentation

The IV&V representative shall review the following documents in order to be properly prepared for the IPR.

- A. NASA Standards
 - NPD 2820.1 NASA Software Policies
 - NPG 7120.5A NASA Program and Project Management Processes and Requirements

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- NPD 8730.4 Software Independent Verification and Validation (IV&V) Policy
- NASA-STD-2201-93 NASA Software Assurance Standard
- NASA-STD-8719.13A NASA Software Safety Standard

B. Documents provided by the program/project

6.2.2 Identify Personnel to Interview

The IV&V representative shall obtain from the IPR Team Lead and the NASA Program/Project an initial list of personnel to participate in the IPR who are knowledgeable of the program/project's software related policies, practices, and procedures. The IV&V representative may also identify additional software personnel to participate in the IPR by:

- Contacting IV&V Facility co-workers and personal contacts of the program/project
- Accessing the Center's web site and locating programs/projects with software components (if applicable to purpose of IPR)
- Reviewing Center Initiative proposals
- Any other means

The IV&V representative shall notify the IPR Team Lead of the additional software personnel that should be a part of the IPR.

6.3 Participate in IPR

The IV&V representative shall travel to the location of the IPR. The typical schedule for an IPR follows:

- Day 1 - Travel to IPR; short in-briefing by IPR Team Lead to IPR team and NASA Program/Project
- Day 2 - Conduct briefings and interviews with programs/projects; review findings for the day
- Day 3 - Prepare findings and recommendations for out-briefing
- Day 4 - Out-briefing to Program/Project Manager and possibly the NASA Center Director; travel home

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6.3.1 Conduct Briefings and Interviews

The IV&V representative shall review any relevant information delivered at the in-brief, along with information already in hand prior to the IPR. The IV&V representative shall look for proof and objective evidence to verify the NASA program/project is adhering to applicable NASA software plans, policies, and procedures and their own software plans, policies, and procedures.

During the briefings and/or interviews, the IV&V representative shall:

- Introduce themselves and their purpose for meeting with the program/project (why you are there?)
- Request the program/project representative to give an overview of the program/project
- Record observations

6.3.2 Prepare Findings and Recommendations

The IV&V representative shall document the required information to summarize their findings and recommendations based on the interviews with programs/projects. The IV&V representative shall turn the findings and recommendations in to the IPR Team Lead.


The IPR Team Lead is responsible for compiling all findings and recommendations from IPR team members, presenting them to the Program/Project Manager for review and concurrence, preparing the out-briefing, and preparing a draft IPR Final Report.

6.3.3 Conduct Out-briefing

The IPR Team Lead is responsible for out-briefing the Program/Project Manager and NASA Center Director (when applicable). IPR team members may or may not be required to be present at the out-brief, depending on the IPR Team Lead.

6.4 Review Draft IPR Final Report

The IPR Team Lead will forward a draft IPR Final Report to all IPR team members for comments. The IV&V representative is responsible for ensuring the verbiage in the report regarding the software related observations correctly reflect the intended message. It should be noted, however, that the IPR Team Lead has final say on the

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contents of the Final Report. In doing so, the IPR Team Lead may make verbiage stronger or weaker depending on the point they are trying to get across (e.g. – putting a heavy emphasis on lack of personnel resources).

The IPR Team Lead will forward a copy of the final IPR Final Report to all IPR team members.

6.5 Create IPR File

The IV&V representative shall submit the following information to the Administrative Staff to file in the appropriate Project File as a Quality Record per section 8 of this procedure and in accordance with IVV-16:

- A list of the governing (high level) Policies/Plans/Procedures for the program/project
- Draft IPR Final Report
- Final IPR Final Report

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7.0 Metrics

This section is not applicable to this section.

8.0 Records

The following records will be generated and managed in accordance with IVV 16 and reference to NPG 1441.1 NASA Records Retention Schedules.

Document Name and Identification Number	User Responsible for Record Retention	Retention Requirement	Location
A list of the governing Policies/Plans/Procedures for the NASA Program/Project	IV&V Representative	Permanent	Project File
Draft PV Final Report	IV&V Representative	Permanent	Project File
Final PV Final Report	IV&V Representative	Permanent	Project File